

DIXON ISLAND; AN ABORIGINAL SITE IN DANGER

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Dixon Island is situated off the north-west coast of Western Australia, not far from the iron ore loading port at Cape Lambert. Visitors to the island have reported numerous signs of Aboriginal habitation, particularly artefact scatters, workshop areas and middens. At present the island is largely ignored, though the access beach at Antonio's Mire is a much used fishing and boating place. It is likely therefore that within a short time of the continued expansion of the area the island will be increasingly used as a tourist and pleasure area.

Perhaps the most salient feature of the island is that it is bounded to the north and west by steep sea cliffs whose precipitous fall into deep waters renders its situation valuable as a harbour in an area of extensive salt marshes and shallow tidal flats. Dixon Island received attention from the Pilbara Study Group (1) and it has been suggested that the island would make an ideal industrial complex and port site.

The island's archaeological potential is threatened on all sides, and action at least in the form of a preliminary survey was essential. Immediate problems were mainly physical ones since access to the island was not easy. Local sources stated that it was possible to walk to the island at low tide, but the proposition did not appear altogether practical. Small boats were also unsuitable since sandbanks, shoals and the poor nature of the access track across the marshes could have caused problems. Finally a canoe was offered, being both light and of shallow draft. While the vessel imposed limitation on baggage the journey to the island was both adventurous and efficient, and not so far removed from the way in which the Aborigines must have been crossing the same stretch of water for generations.

The island is composed geologically of shales and chert of Cleverville Formations belonging to the Archaean period. The rock has been weathered to a rough consistency in places and demonstrates extreme irregularities in stratified forms as a result of subterranean pressures. Where exposed it is consistently dark red and sometimes purple. The associated weathered sand is consequently of a dark red colour. While the greater part of the island is composed of these older rocks, coastal areas are mainly sand dunes, with bands of quaternary limestone and coral deposits still unconsolidated.

The topography of the island can thus be divided into two main sections. The inland areas are of low rolling hills, with isolated outcrops of rock. This higher land terminates in the spectacular sea cliffs to the north west of the island at a height of something over 35 metres. The lower coastal areas are of sand and more recent deposits, being flat and for the most part low lying. The island is then on the whole of regular appearance, and the terrain smooth and uninterrupted by bluffs and outcrops. The rising ground that terminated in the sea cliffs offers some contrast to this relief by presenting bolder, higher ground. The island is approximately five and a half kilometres in length, and from one to two kilometres wide.

The chief vegetation of the island is spinifex. This covers almost all of the high inland areas, and extends to cover the dune areas in places. However, there are quantities of local grasses, which in some places are more prolific than the spinifex. Large areas of the coast to the west and south-east have mangroves and inland areas and coastal alluvial flats have several varieties of shrub—mulgas and acacias, but there were no larger trees.

The island had a prolific kangaroo population. These were Plains Kangaroos, which unmolested, breed freely on the island. There are also goannas and geckoes, pelicans, cormorants and sea eagles. Above all else the island is surrounded by waters containing a rich and varied sea life. The extensive tidal flats contained multitudes of shells, bivalves and gastropods, mainly mangrove creepers. A variety of fish live in the water, as well as turtles, dugongs and bêche-de-mer.

Very little is known of the Aboriginal relationship to the island. Traditionally the island would have been in Ngarluma territory, and it is probable that these were the people who used it. The island does not figure in any of the traditional lore with which we are familiar, nor is the place talked of by the surviving members of the race. We do know however from the accounts of contemporary explorers (2) that the Ngarluma people did use primitive rafts. These were corkwood boughs bound together, and paddled by hand. By analogy with surviving coastal peoples elsewhere we may conclude that the Ngarluma would have exploited both fish and shell food from the area. The accessibility of Dixon Island would have made it a natural location for habitation from time to time, perhaps when there were exceptionally low tides, or when other food sources gave out. There is however no evidence to support the view that the island had ceremonial significance, though knowledge of these people is extremely limited.

We have then an easily accessible coastal island, offering rich supplies of food, shelter and most probably seasonal fresh water. Further, supplies of local rock were of a fine-grained material which broke cleanly, offering a sharp cutting edge ideal for domestic and cultural use. It is hardly surprising therefore that the island offers a number of rich Aboriginal sites of the habitation and artefact *genre*.

Eight artefact/midden sites were found on the island, and these were all located in the low coastal areas, adjacent to bays or tidal mud flats and mangrove thickets. The sites along the south-east coast were located on limestone or coral conglomerate, interspersed with thick shrubs in places. The soil however was generally sandy and the outlook was usually mangroves or coastal mud flats. The sites along the north-west were only different in that they were located in dunes of a more prominent nature, though in one case the site was located well behind the beach on flat alluvial, interspersed with spinifex. Sites varied in their extent, measuring from 30 metres in length along a beach line, to something over 200 metres. The depth of the deposit was only tested in one location, and was there found to be at least 30 centimetres, though it was time that arrested the depth of the test pit, not lack of material.

Sites varied mainly in numbers and abundance of artefacts. The material was from local rocks and has been identified as silicified chert breccia, fine grained cherty siltstone and banded chalcedony (3). Artefacts from the local green rocks found in some numbers on the north-west of the island were formed from the green granular rocks. They were particularly attractive as were those manufactured from translucent chalcedony with black impurities that made an intricate tracework when held up to the light. At only one place, near high water mark, was bottle glass discovered, and this was doubtfully artefactual. Worked bailer shell was also noted as were fragments of bailer shell, though it is possible that these were a food source. They may have served both purposes.

By far the greater part of the midden material was composed of bivalves (*Anadara* sp). These littered the ground in great profusion and over extensive areas in some cases. Next were gastropods, mainly mangrove creepers, found in fewer numbers but with no established pattern as far as location was concerned. Lastly fragments of bailer shell, trumpet shell and turtle bone were noted, along with crab claws and other unidentifiable calcareous material.

The island is threatened both by industrial development and by tourism. The island is outstanding for its Aboriginal habitation and midden sites, both for their abundance and unspoilt condition as they relate to the island as a whole. The island is also of outstanding natural beauty, offering sea cliffs and scenery rarely found in this section of Western Australia. The wild life and flora are unmolested and worthy of a separate study.

NOTES

- (1) The Pilbara Study, Report of the Industrial Development of the Pilbara. Canberra, 1974. 6.5. ff.

- (2) The Diary of William Shakespeare Hall, 1861. Copies from the originals by J. H. Clifton, 1928. W.A. Historical Society. Entry for May 15th.
- (3) J. Clarke, Conservation Geologist, W.A. Museum; personal communication. March 1975.

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Details of all sites, including maps and photographs are on file with the Registrar of Aboriginal Sites, W.A. Museum.

NESTING OF BANDED STILTS AT LAKE BALLARD

By C. F. H. JENKINS

The Banded Stilt (*Cladorhynchus leucocephalus*) has been known to science for almost 160 years and yet it still remains one of Australia's mystery birds. Each summer flocks of these stilts, or Rottnest Snipe, appear on the Rottnest salt lakes and other waters along the west coast, but during the breeding season the birds disappear inland and for more than a hundred years they managed to conceal their nesting habits from the prying eyes of even the most ardent bird watchers.

The first breakthrough came in the winter of 1930 when eggs, photographs and dead birds taken at Lake Graec were forwarded to the Western Australian Museum by Mrs. B. E. Cannon of Kukerin. A comparison of these eggs with those of the White-headed Stilt (*Himantopus himantopus*), confirmed that the Lake Graec eggs were indeed new to science.

Remarkably enough the next breeding record of this stilt came in December of the same year when eggs were collected at Lake Callabona in the north of South Australia (McGilp and Morgan, 1931). Despite the increased interest aroused by these two nesting records and a watching brief by various naturalists no further breeding activity was recorded until 1945 and 1946—two very wet years—when nesting again took place at Lake Graec, but on both occasions, the eggs were flooded before the chicks could hatch (Serventy & Whittell, 1967).

The latest record of a successful breeding in Western Australia came from Lake Ballard, about eight miles north-west of Menzies, in July 1973.

Police sergeant Alan Middleton reported the occurrence and confirmed it by forwarding newly hatched chicks to the Perth Zoological Gardens where they were successfully reared by the Director, Mr. Tom Spence.

Middleton stated that approximately 13 inches of rain fell at Menzies from May to October and that about 60 breeding pairs occupied samphire flats on the edge of the lake. Brinc shrimps, *Parartemia* sp., were said to be present, but not numerous and the birds had access to extensive areas of water about four inches deep.

Unfortunately, various predators were attracted to the area including Aborigines (to whom the chicks are a delicacy), crows, hawks (including Grey Falcons) and foxes. The clutch size, as at the original Lake Graec site, varied from three to four but Middleton estimates that only about 10 per cent of the chicks normally survive.

Middleton also reported that although no nesting colony was actually found, the Banded Stilts certainly bred in the Menzies district in 1963 when numbers of chicks walked through the town.

This recalls a much earlier reference to chicks walking by T. Smith of Kalgoorlie who, writing to the Curator of the Museum, Mr. L. Glauert, referred to "the migration of young 'Rottnest Snipe' which took place from